

40" TOW-BEHIND DE-THATCHER



Instruction & Assembly

SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE

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GENERAL WARNINGS

READ and UNDERSTAND this manual completely before using 40" De-Thatcher.

Operator must read and understand all safety and warning information, operating instructions, maintenance and storage instructions before operating this equipment. Failure to properly operate and maintain the de-thatcher could result in serious injury to the operator or bystanders.

Operation Warnings

- Do not at any time carry passengers, sit or stand on the de-thatcher.
- Do not allow children to play on, stand upon or climb on the de-thatcher.
- Always inspect the equipment before using to assure it is in good working condition.
- Replace or repair damaged or worn parts immediately.
- Always check and tighten hardware and assembled parts before operation.
- Do not exceed equipment maximum tray load capacity of 70lb.
- Avoid large holes and ditches when operating the equipment.
- Be careful when operating the de-thatcher on steep grades (hill).
- ALWAYS operate at reduce speed in rough terrain, along creeks, ditches and on hillsides.
- Do not operate close to creeks, ditches and public highways.
- To avoid personal injury and/or equipment damage **DO NOT EXCEED 5MPH.**
- Always use caution when loading and unloading extra weight on the tray.
- Only tow with recommended vehicles (Lawn/Garden Tractors and ATVs).
- Always refer to the vehicle owner's manual for proper towing.
- De-thatcher is not designed to be used with zero-turn mowers.
- Always secure and lock de-thatcher to the vehicle hitch before operating.

Crush and Cut Hazards

- Always keep hands and feet clear from moving parts while operating the equipment.
- Always clear and keep work area clean when operating.
- Always wear safety gear, eye protection, gloves and work boots when operating the equipment.



WARNING

The warnings, cautions, and instructions outlined in this instruction manual cannot cover all possible conditions or situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product and must be supplied by the operator.



PROP 65 WARNING

This product contains chemicals known to the state of California to cause cancer, birth defects, or other reproductive harm.

Assembly Is Required

This product requires assembly before use. See "Assembly" section for instructions. Because of the weight and/or size of the 40" de-thatcher, it is recommended that another adult be present to assist with the assembly. **INSPECT ALL COMPONENTS** closely upon receipt to make sure no components are missing or damaged.

Hazard Signal Word Definitions

	This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.
	DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
	WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
	CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.
	CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

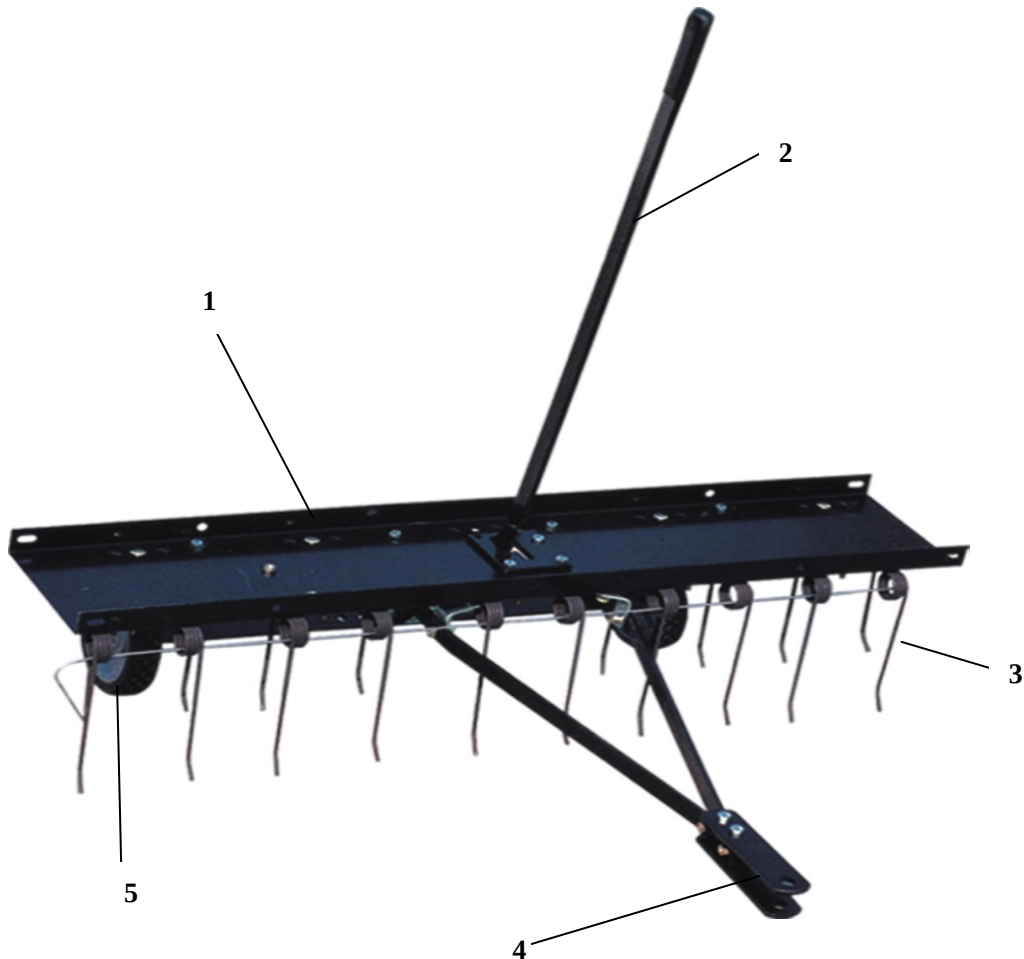
ABOUT YOUR 40" TOW-BEHIND DE-THATCHER

This 40" Tow-behind de-thatcher has a roughed steel construction and is designed to remove dead grass, matted thatch, debris and large clippings. The 40" Tow-behind de-thatcher features a fully enclosed weight tray to increase the penetration depth. Never exceed the tray's rated loaded capacity of 70lbs when operating the de-thatcher.

Technical specifications on the 40" de-thatcher are provided in the "Specifications" section of this manual.

Controls and Features Identification

Read this owner's manual before operating the equipment. Familiarize yourself with the location and function of the controls and features. Save this manual for future reference.



- 1) **De-thatcher Tray** – Do not exceed maximum load capacity 70lb.
- 2) **Lift Handle** – Positions tines up or down.
- 3) **Tines** – Removes debris from the ground.
- 4) **Hitch** – Pin-type design use only with approve vehicles.
- 5) **Tires / Wheel** – All terrain for easy maneuvering.



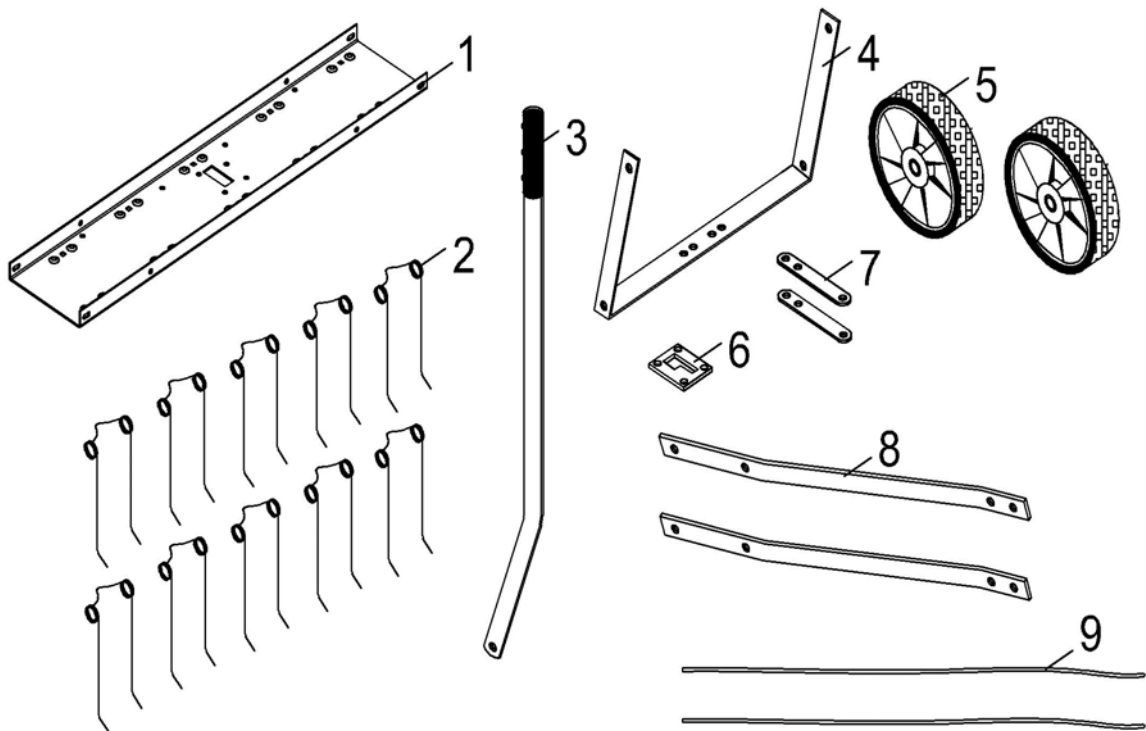
CAUTION

Read and follow all instructions for assembly and operation. Failure to properly assemble this equipment could result in serious injury to the user or bystanders, or cause equipment damage.

DE-THATCHER COMPONENT PARTS AND ASSEMBLY

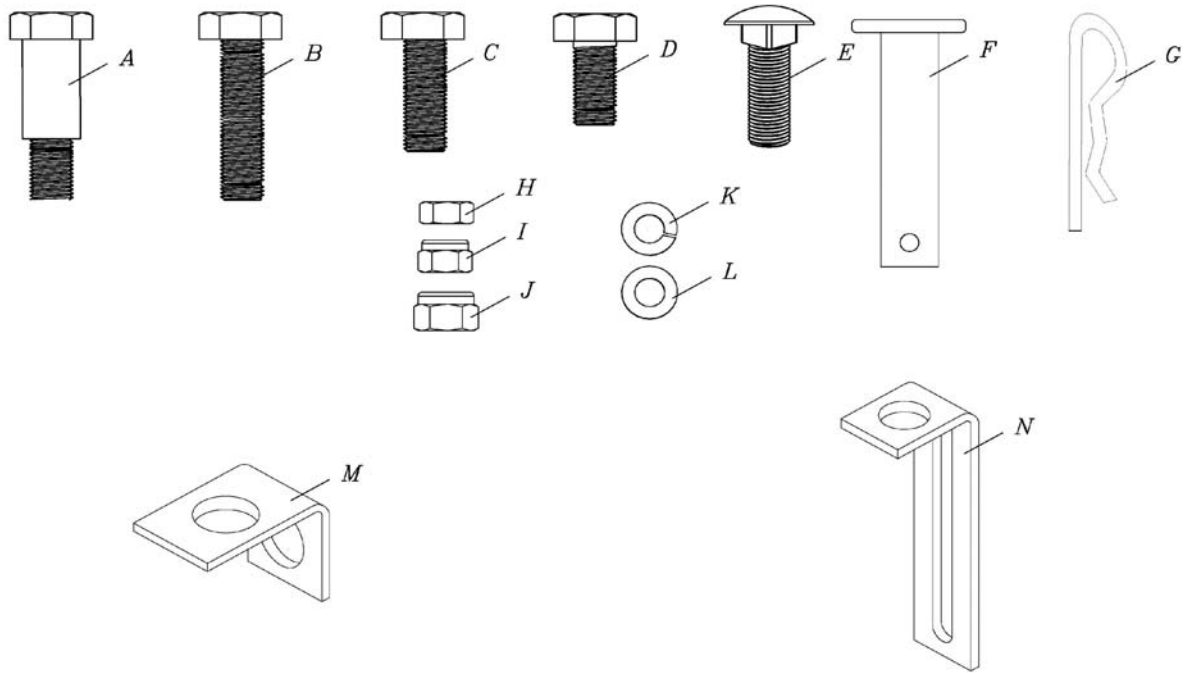
Take all parts out of the shipping crate and inspect components to ensure there are no missing pieces before starting to assemble the de-thatcher, follow the steps below.

Component and Hardware Parts



Ref#	Description	Qty	Ref#	Description	Qty
1	Tine Shield	1	6	Lift Plate	1
2	Spring Tines	10	7	Hitch Bracket	2
3	Lift Handle	1	8	Hitch Mount Arms	2
4	Axle Bracket	1	9	Spring Alignment Wires	2
5	Wheels	2			

Component and Hardware Parts



Ref#	Description	Qty	Ref#	Description	Qty
A	Shoulder Bolt	2	H	Hex Nut M8	14
B	Hex Bolt M8x50	2	I	Hex Lock Nut M8	19
C	Hex Bolt M8x30	2	J	Hex Lock Nut M10	2
D	Hex Bolt M8x20	15	K	Lock Washer $\phi 8$	14
E	Carriage Bolt M8x25	14	L	Big Flat Washer $\phi 8$	10
F	Hitch Pin $\phi 10$	1	M	Angle Bracket	4
G	Hair Cotter Pin $\phi 3$	1	N	Hitch Arm Mounting Bracket	3

ASSEMBLY INSTRUCTIONS

TOOLS REQUIRED FOR ASSEMBLY

- (1) 13mm Wrench
- (1) 14mm Wrench
- (1) Adjustable Wrench
- (1) Pliers

Before assembling the de-thatcher, lay out all of the parts and hardware as shown on the previous pages.

The 40" de-thatcher is shown in the following drawings. The assembly of the 40" and 48" is the same except as noted in the instructions.

1. Assemble the lift plate to the top of the tine shield using four M8x20 hex bolts and M8 hex lock nuts as shown in figure 1. Tighten.

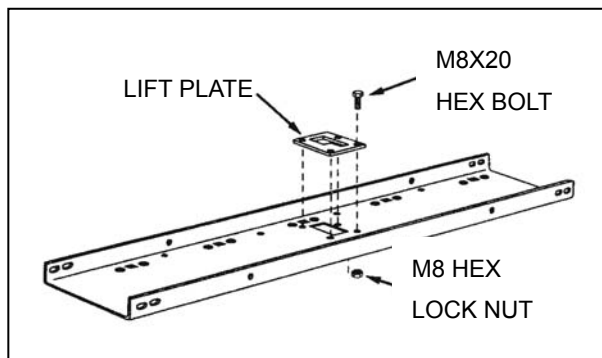


FIGURE 1

2. Turn the tine shield upside down. See figure 2.
3. Assemble two (tall) hitch arm mount brackets and two (short) angle brackets to the bottom of the tine shield. Fasten the brackets to the four round holes at the rear of the tine shield using four M8x20 hex bolts and M8 hex lock nuts. Do not tighten yet. See figure 2.
4. Assemble two angle brackets to the round holes in the bottom of the tine shield at the front. Use two M8x20 hex bolts and M8 hex lock nuts. Do not tighten yet. See figure 2.

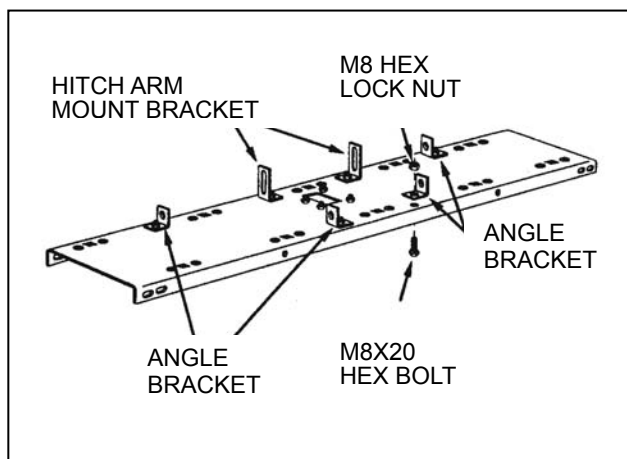


FIGURE 2

5. Fasten the hitch mount arms to the outside of the angle brackets at the front of the tine shield. Use two M8x20 hex bolts and M8 hex lock nuts. Tighten and then loosen the nuts slightly. See figure 3.
6. Fasten the hitch mount arms to the outside of the hitch arm mount brackets at the rear of the tine shield. Use two M8x25 carriage bolts, Ø8 lock washers and M8 hex nuts. Do not tighten yet. See figure 3.

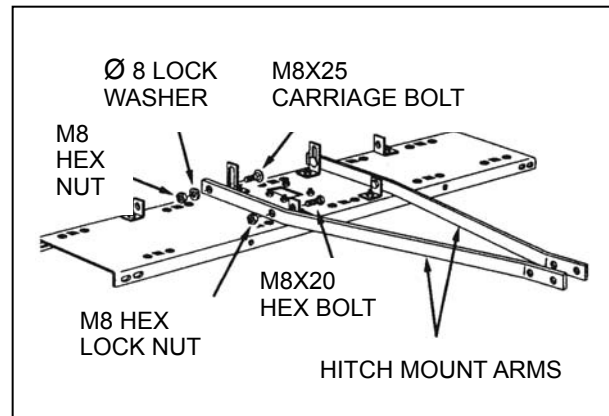


FIGURE 3

7. Assemble the front ends of the hitch mount arms together using two M8x30 hex bolts and M8 hex lock nuts. Do not tighten yet. See figure 4.
8. Assemble the hitch brackets to the top and bottom of the hitch mount arms using two M8x50 hex bolts and M8 hex lock nuts. Do not tighten yet. See figure 4.
9. Assemble the Φ10 hitch pin through the hitch brackets and secure it with a Φ3 hair cotter pin. See figure 4.

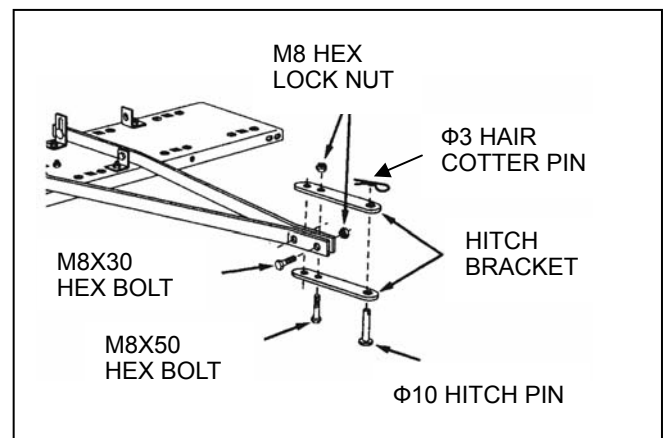


FIGURE 4

10. Tighten the bolts and nuts assembled in step 8. Tighten the bolts and nuts assembled in step 7. Tighten the bolts and nuts assembled in step 3. Tighten the bolts and nuts assembled in step 4. Tighten and then loosen slightly the bolts and nuts assembled in step 5. Tighten the bolts and nuts assembled in step 6.

11. Assemble the axle bracket on the outside of the angle brackets using two M8x20 hex bolts and M8 hex lock nuts. The ends of the axle bracket must point as shown in figure 5. Tighten and then loosen the bolts and nuts slightly.

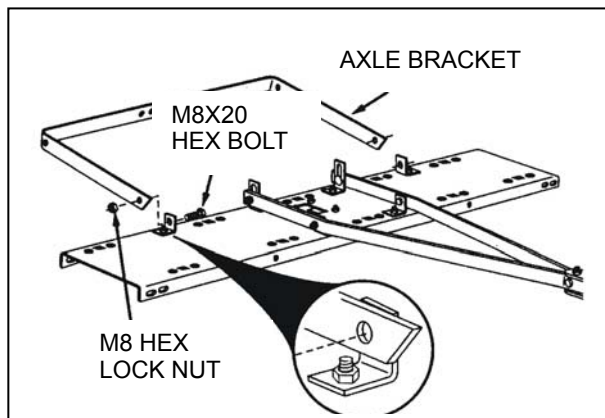


FIGURE 5

12. Assemble the wheels to the axle bracket using two shoulder bolts and two M10 hex lock nuts. Tighten. See figure 6.

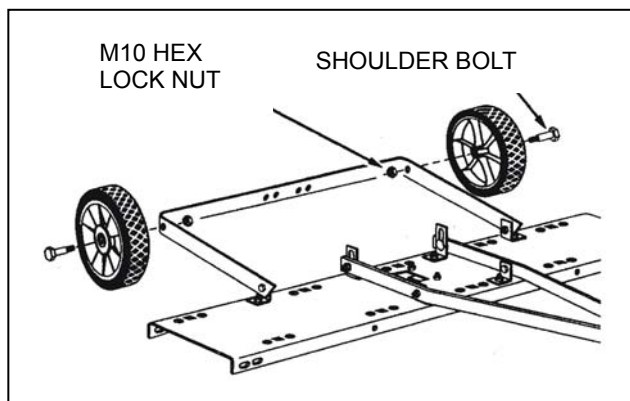


FIGURE 6

13. Fasten ten spring tines to the square holes in the bottom of the tine shield. Use a M8x25 carriage bolt, $\Phi 8$ big flat washer, $\Phi 8$ lock washer and M8 hex nut for each spring tine. Tighten. See figure 7.
NOTE: Spring tines must seat between dimples.

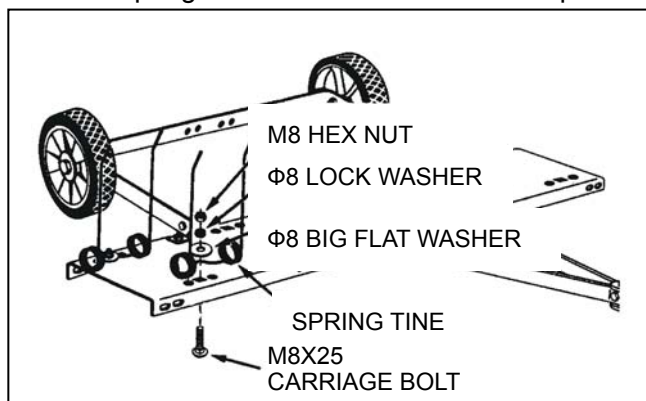


FIGURE 7

14. Assemble the spring align wires through the front and rear rows of spring tines, passing the wires in between the hitch mount arms and the tine shield. Bend the ends of the wires to secure them. See figure 8.

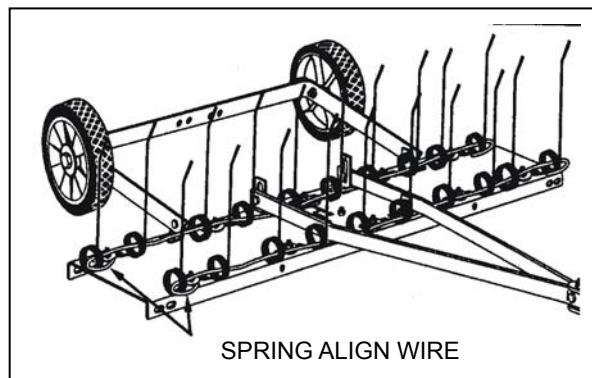
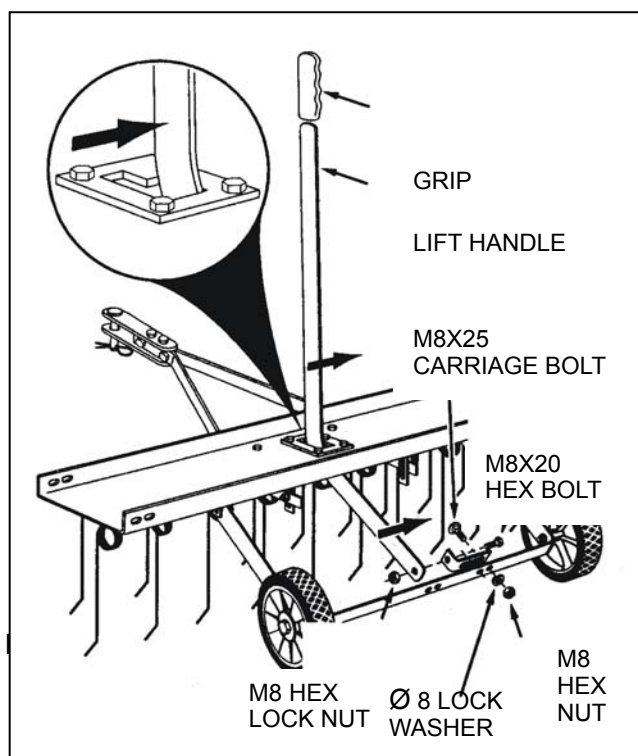


FIGURE 8

15. Assemble a hitch arm mount bracket to the axle bracket using two M8x25 carriage bolts, $\Phi 8$ lock washers and M8 hex nuts. Do not tighten yet. See figure 9.

16. Insert the lift handle down through the tine shield. Attach it to the just assembled hitch arm mount bracket using M8x20 hex bolt and a M8 hex lock nut. Tighten. See figure 9.

17. Position the hitch arm mount bracket so that there is side tension on the lift handle when it is locked in the up position. Tighten the nuts. See figure 9.



OPERATION / ADJUSTMENT

Regular removal of thatch is critical to maintenance of a healthy lawn. Thatch is a layer of stems, clippings, runners, roots and leaves that have not decayed. Excessive thatch prevents air, water and fertilizer from reaching the roots. The de-thatcher effectively dislodges excessive thatch from your lawn. Read these instructions to help avoid improper adjustment and operation.

Proper adjustment of the tine shield and spring tines is important for effective performance. Refer to the following steps for the proper adjustment before operating the de-thatcher.

1. Move the towing vehicle onto a level surface, such as a driveway or garage floor and attach the tine de-thatcher to the vehicle hitch. See figure 10.
2. To adjust the spring tine shield, lower the de-thatcher into operating position using the lift handle. Loosen the two hex nuts and carriage bolts which fasten the rear of the hitch mount arm to the hitch arm mount brackets. Adjust the tin shield until it is level and both the front and rear spring tines are in contact with the ground. Re-tighten the hex nuts. See figure 10.

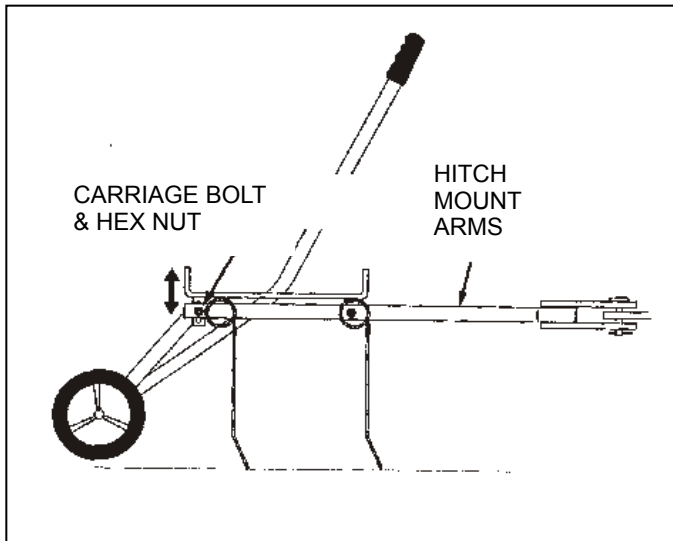


FIGURE 10

3. Vary the vehicle's forward speed until the best dethatching action is achieved.
4. For best results, use a crisscross pattern on your lawn.

5. If the de-thatcher appears to be "jumping" during use, then extra weight should be added to the tine shield. In most conditions extra weight will be needed. Concrete patio blocks are recommended for weight because of their low profile; however any type of weight is suitable if it can be tied down to the shield. Secure weight by using suitable binding material such as rubber tie down straps or wire, fastening to the holes in the shield flange. See figure 11.

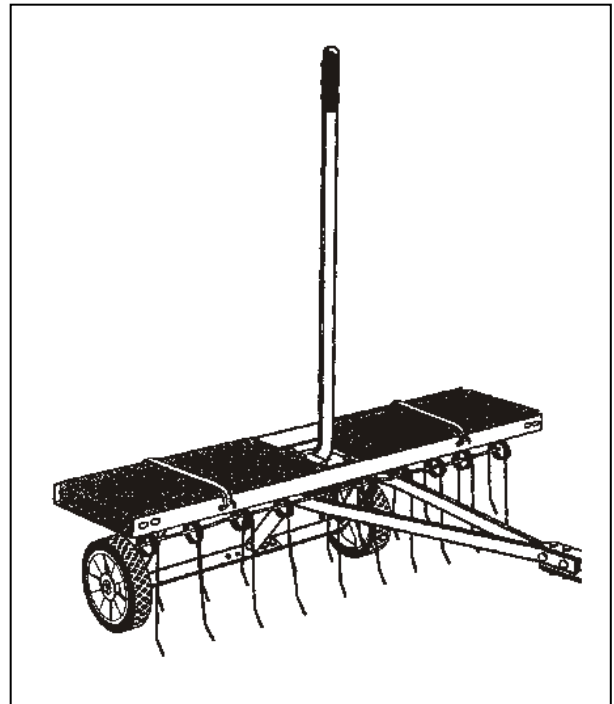
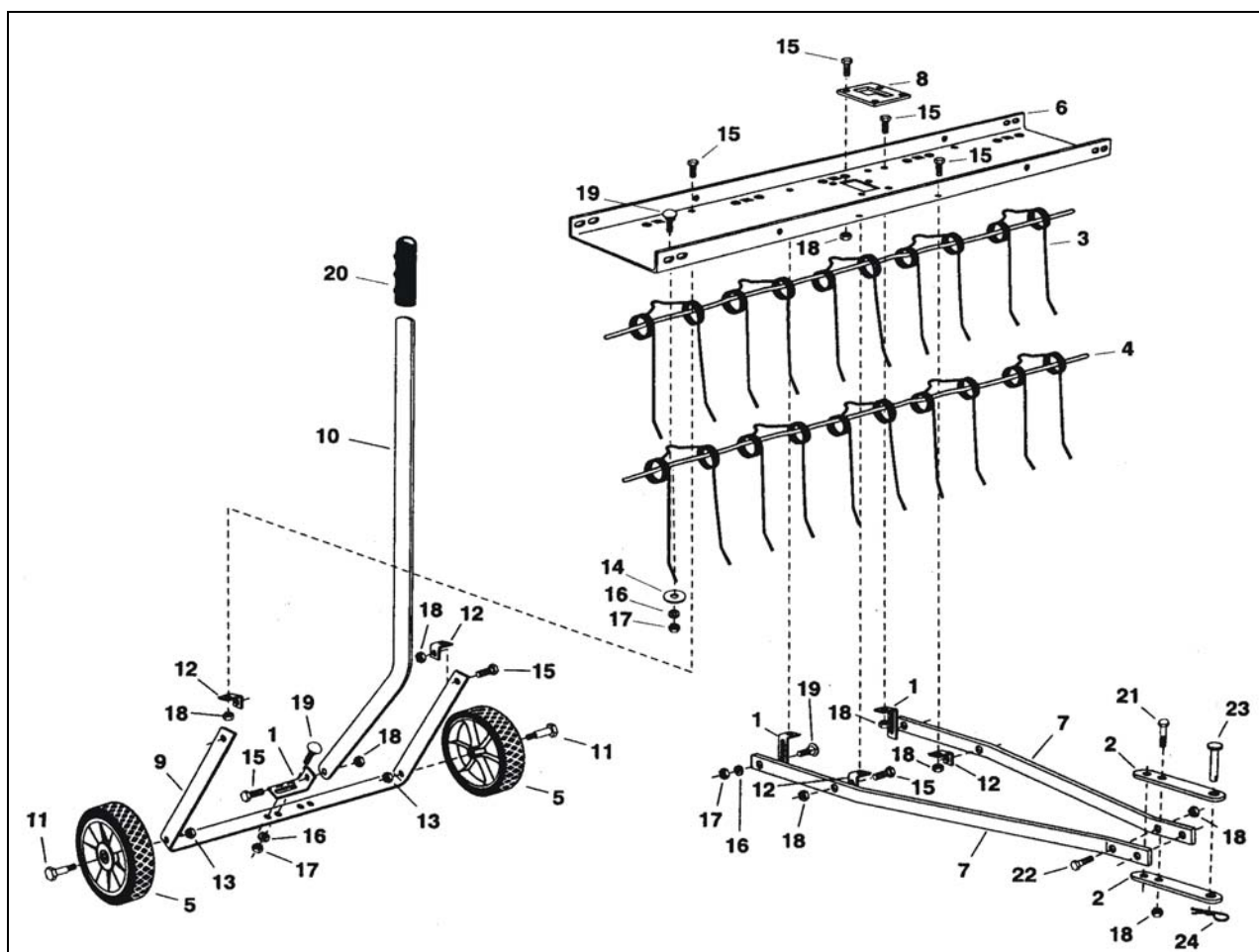


FIGURE 11

MAINTENANCE

1. Before each use check all nuts and bolts for tightness.
2. Lubricate wheels as needed.
3. If rust appears on the shield or spring tines, sand lightly and coat with enamel paint.
4. Always store in a dry area, and coat exposed metal with light oil when not in use.

PART DRAWING AND PARTS LIST



Part No	Desc	Qty	Part No	Desc	Qty
1	Hitch Arm Mount Bracket	3	13	Hex Lock Nut M10	2
2	Hitch Bracket	2	14	Big Flat Washer Ø 8	10
3	Spring Tine	10	15	Hex Bolt M8x20	15
4	Spring Alignment Wire	2	16	Lock Washer Ø 8	14
5	Wheel	2	17	Hex Nut M8	14
6	Tine Shield (40")	1	18	Hex Lock Nut M8	19
7	Hitch Mount Arm	2	19	Carriage Bolt M8x25	14
8	Lift Plat	1	20	Handle Grip	1
9	Axle Bracket	1	21	Hex Bolt M8x50	2
10	Lift Handle	1	22	Hex Bolt M8x30	2
11	Shoulder Bolt	2	23	Hitch Pin M8 (Flat Head)	1
12	Angle Bracket	4	24	Hair Cotter Pin Ø3	1

Limited Warranty

Warranty

For one year from the date of purchase YTL International will replace for the original purchaser, or repair the plug aerator. The warranty will not apply to any unit which was not assembled correctly, misused, overloaded or which has been used or operated contrary to our instructions, or which has been repaired or altered by anyone other than an authorized representative.

Warranty Exclusions

This warranty does not cover cosmetic defects such as paint, decals or wear items such as tires. This warranty will not cover failures or problems due to acts of God, or events or forces beyond the control of the manufacturer.

Normal Wear Exclusion

The aerator needs periodic service to perform well. This warranty does not cover repair when normal use has exhausted the life of a part or the equipment as a whole.

Installation, Use and Maintenance Exclusion

This warranty will not apply to parts and/or labor if the aerator has been misused, neglected, involved in an accident, abused, loaded beyond its limits, modified or assembled incorrectly. Normal maintenance is not covered under this warranty.

Limits of Implied Warranty and Consequential Damage Exclusion

YTL International disclaims any obligation to cover any loss of time, use of this product, freight, or any incidental or consequential claim by anyone from using this aerator. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR.

An exchange unit will be subject to the original warranty. The length of the warranty governing the exchanged unit will have the date as the purchase date of the original unit. This warranty gives you certain legal rights which may change from state to state. Your state may also have other rights you may be entitled to that are not listed within this warranty.

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